

IN THE CLAIMS:

1. (currently amended) A semiconductor device, comprising:
- a support substrate;
 - an insulating layer formed on the support substrate;
 - a first semiconductor layer formed on the insulating layer;
 - a first high breakdown voltage transistor formed in the first semiconductor layer;
 - a second semiconductor layer formed on the insulating layer;
 - a second high breakdown voltage transistor formed in the second semiconductor layer;
 - a first isolation region formed between the first semiconductor layer and the second semiconductor layer, the first isolation region surrounding the first and second high breakdown voltage transistors individually and having a depth that reaches the insulating layer;
 - a third semiconductor layer formed on the insulating layer;
 - a first low breakdown voltage transistor formed in the third semiconductor layer;
 - a second low breakdown voltage transistor formed in the third semiconductor layer; and
 - a second isolation region formed in the third semiconductor layer between the first low breakdown voltage transistor and the second first low breakdown voltage transistor, the second isolation region having a depth that does not reach the insulating layer.

2. (original) A semiconductor device according to Claim 1, further comprising:

a third isolation region formed between the second semiconductor layer and the third semiconductor layer, the third isolation region having a depth that reaches the insulating layer.

3. (original) A semiconductor device according to Claim 1,

wherein the first semiconductor layer, the second semiconductor layer, and the third semiconductor layer are all of equal thickness.

4. (original) A semiconductor device according to Claim 2,

wherein the first semiconductor layer, the second semiconductor layer, and the third semiconductor layer are all of equal thickness.

5. (original) A semiconductor device according to Claim 3,

wherein the first semiconductor layer, the second semiconductor layer, and the third semiconductor layer are respectively 500 to 2,000nm thick.

6. (original) A semiconductor device according to Claim 4,

wherein the first semiconductor layer, the second semiconductor layer, and the third semiconductor layer are respectively 500 to 2,000nm thick.

7. (original) A semiconductor device according to Claim 1,

wherein surfaces of the first semiconductor layer, the second semiconductor layer, and the third semiconductor layer are at a same level.

8. (original) A semiconductor device according to Claim 2,
wherein surfaces of the first semiconductor layer, the second semiconductor layer, and the third semiconductor layer are at a same level.
9. (original) A semiconductor device according to Claim 1,
wherein the first and second high breakdown voltage transistors further comprise:
a first gate insulating layer formed above a channel region; and
a second gate insulating layer formed above an offset region,
wherein the second gate insulating layer is thicker than the first gate insulating layer.
10. (original) A semiconductor device according to Claim 2,
wherein the first and second high breakdown voltage transistors further comprise:
a first gate insulating layer formed above a channel region; and
a second gate insulating layer formed above an offset region,
wherein the second gate insulating layer is thicker than the first gate insulating layer.

Claims 11-19 (canceled).

20. (currently amended) A semiconductor device comprising:

a support substrate;

an insulating layer formed on the support substrate;

a high breakdown voltage transistor;

a low breakdown voltage transistor, wherein the high breakdown voltage transistor is within a first isolation region having a depth that reaches the insulating layer such that the first isolation region isolates the high breakdown voltage transistor from other transistors, and the low breakdown voltage transistor is adjacent to a second isolation region having a depth that does not reach the insulating layer.

21. (withdrawn) A method of manufacturing a semiconductor device, the method comprising the steps of:

preparing a substrate including a support substrate and an insulating layer;

forming a first isolation region having a depth that reaches the insulating layer, wherein the first isolation region includes a first trench insulating layer;

forming a second isolation region having a depth that does not reach the insulating layer, wherein the second isolation region includes a second trench insulating layer;

forming a first high breakdown voltage transistor in a region within the first isolation region, wherein the first high breakdown voltage transistor includes a trench insulating offset; and

forming a first low breakdown voltage transistor in a region adjacent to the second isolation region,

wherein the first trench insulating layer, the second trench insulating layer and the trench insulating offset are all formed simultaneously.

Claims 22-25 (cancelled)

Please add the following new claims.

26. (new) A semiconductor device according to Claim 1,

wherein the first semiconductor layer defines at least one trench that has a base part reaching the insulating layer and sidewalls extending through the insulating layer; and

further comprising a trench oxide film on the sidewalls of the at least one trench layer, wherein the trench oxide film has a lower end adjacent the insulating layer and an upper end that is rounded to favorably bury the at least one trench.